

## **ABSTRACT OF THE DISCLOSURE**

The present invention provides a microchip apparatus upon which molecular reactions such as the polymerase chain reaction (PCR) can be performed. The microchip of the present invention preferably comprises a plurality of well structures organized in an array that can be used to perform parallel, independently controlled molecular reactions. The present invention further provides an apparatus upon which reaction conditions can be optimized or upon which multiple reactions with differing reaction conditions can be performed.